

REMARKS

Reconsideration and allowance of the present application are respectfully requested. Claims 11-17, 19-25 and 27-32 remain pending, of which claims 14, 22 and 29 are independent. By this amendment, claims 14, 22 and 29 are amended.

Applicant notes with appreciation the Examiner's approval of the drawings filed on July 30, 1998, and on May 6, 2002. Fig. 1 is submitted herewith as a formal drawing.

In numbered paragraph 5 of the Office Action, independent claims 14, 22 and 29, along with all dependent claims, are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,181,826 (Weldy et al.) in view of U.S. Patent No. 6,263,106 (Yamagata). This rejection is respectfully traversed.

Applicant has disclosed a method and system for processing images in a digital camera wherein the digital camera includes an image storage device having primary and secondary storage areas. As exemplified in Fig. 1 and described on page 2 of Applicant's specification, exemplary embodiments of the present invention can perform image compression on an image using first and second image data quantizations to produce two different data sets relating to the same image: a primary compressed data set and an auxiliary compressed data set. The primary compressed data set is sufficient to reproduce the image at a first quality level. In one exemplary embodiment, the outputs of the primary and auxiliary quantizers can differ in their least significant bits, therefore, only a portion of the auxiliary quantizer output can be stored (page 6, lines 11-13). In another exemplary embodiment, the least significant bit of the auxiliary quantizer output can be used as the auxiliary data stream (page 6, lines 30-33). Accordingly the two compressed image data sets can

be viewed as combinable portions of the stored data representing a single raw image.

As subsequent images are captured, primary and auxiliary data sets are generated for each image. Each primary data set is stored in a primary storage area. Each auxiliary data set is stored in a secondary storage area. When the primary storage area becomes filled, space in the secondary storage area containing auxiliary data sets is released to store additional primary data sets. Thus, exemplary embodiments of the present invention add intelligence to the manner by which compressed digital image data is stored in and/or released from a memory used to store multiple compressed image data sets for a given image.

The foregoing features are broadly encompassed by independent claim 14, which recites, among other features, a second compressed image data set which supplies at least a least significant bit missing in the first compressed image data set for combination with the first compressed image data set to reproduce substantially the entire image at a second, higher quality level, the second compressed image data set being stored in the secondary storage area; and releasing space used to store the second compressed image data set associated with the raw image in the secondary storage area of the image storage device to store a first compressed image data set associated with another raw image when insufficient space is available in the primary storage area of the image storage device to store the first compressed image data set associated with another raw image.

The Weldy et al. and Yamagata patents, when considered individually or in combination as suggested by the Examiner, do not teach or suggest such a method. The Examiner's rejection fails to establish a prima facie case of obviousness

because neither of the documents relied upon teach or suggest a second compressed image data set supplying at least a least significant bit missing in the first compressed image data set for combination with the first compressed image data set to reproduce substantially the entire image at a second, higher quality level, the second compressed image data set being stored in the secondary storage area, as recited in claim 14. Accordingly, even if combined as suggested by the Examiner, the applied references do not result in a portion of compressed image data associated with an image being released from memory in favor of another portion of compressed image data for a different image as recited in claim 14.

The Examiner admits at page 5 of the Office Action that "Claims 19-22 differ from Weldy in that the claim further requires that the system of the processing images in a digital camera including primary and secondary storage areas for storing compressed image data." The Weldy patent discloses using two M/2 quantization level images for an M level image. However, the Weldy patent does not teach or suggest a second compressed image data set supplying at least a least significant bit missing in the first compressed image data set for combination with the first compressed image data set to reproduce substantially the entire image at a second, higher quality level, the second compressed image data set being stored in the secondary storage area. The Weldy patent does not teach or suggest separating at least the least significant bits of an M/2 image compression for separate storage and recombination to reproduce substantially the entire image at a higher quality level.

The Yamagata patent fails to overcome the deficiencies noted with respect to the Weldy et al. patent. The Yamagata patent is directed to an image data compression device wherein a number of image data files recorded by the image

data compression device are stored in a memory card either uncompressed, in a low-compression format, or in a high-compression format (see Abstract). On page 3 of the Office Action, the Examiner relies on Figs. 10-12 and col. 10, lines 16-65 to assert that the user can select the type of compression. However, the Yamagata patent does not teach or suggest compressed image data set supplying at least a least significant bit missing in the first compressed image data set for combination with the first compressed image data set. The Yamagata patent does not teach or suggest separating at least the least significant bits of the user selected image compression for separate storage and recombination to reproduce substantially the entire image at a higher quality level.

Thus, there would have been no motivation or suggestion to have used a quantization technique, as described in the Weldy et al. patent, with the features described in the Yamagata patent to arrive at the presently claimed invention. Moreover, even if the Weldy et al. and Yamagata patents could have somehow been combined in a manner suggested by the Examiner, the presently claimed invention would not have resulted.

Independent claim 14 is therefore allowable over the Weldy et al. and Yamagata patents. Independent claims 22 and 29 recite similar features and are also allowable. The remaining claims depend from these three independent claims and are further considered allowable.

All rejections and objections raised in the Office Action having been addressed, it is respectfully submitted that the present application is in condition for allowance, and a Notice of Allowance is respectfully solicited.

Respectfully submitted,

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Attachment: Replacement Sheet of Fig. 1

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AMENDMENTS TO THE DRAWINGS:

The attached sheet of drawing is a formal drawing of Fig. 1. The replacement sheet incorporates the block labels to Fig. 1 as submitted on May 6, 2002 and as approved by the Examiner.